UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/716,656	CHERITON, DAVID R.
	Examiner	**Art Unit**	
	PETER POLTORAK	2434	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *11/08/10*.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,4,6-11,14-20,22,24-31,34-41 and 44-49* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1, 4, 6-11, 14-20, 22, 24-31, 34-41, 44-49* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All   b) ☐ Some * c) ☐ None of:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____.
   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth

   in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

   application is eligible for continued examination under 37 CFR 1.114, and the fee set

   forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

   has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

   11/08/10 has been entered.

Response to Arguments/Amendments

2. As per the 35 USC § 112 rejection, applicant argues that specific disclosure of the

   specification offer correlation of the cited "means" in the claim language.

   However, applicant does not clearly define these means and, as a result, these

   means continue to be subject of interpretations. For example, in response to

   "means for assigning" applicant points to paragraph 29, which reads as follows:

   "One possible extension to the above, as part of tunnel setup negotiation, is the

   propagation of the ACL entries that apply to G from ER to IR, such that

   unacceptable packets can be dropped at the ingress to the security group tunnel (at

   the IR) rather than on egress (at the ER), after they have traversed (and thus

   consumed the resources of) the network".

   The examiner also noted explicit suggestion in the specification that "The operations

   referred to herein may be modules or portions of modules (e.g., software, firmware

   or hardware modules). For example, although the described embodiment includes

software modules and/or includes manually entered user commands, the various

example modules may be application specific hardware modules. The software

modules discussed herein may include script, batch or other executable files, or

combinations and/or portions of such files. The software modules may include a

computer program or subroutines thereof encoded on computer-readable media"

(para 69).

The cited paragraph 29 not only does not offer any algorithm structure but in fact

does not clearly identify any particular element, hardware, software or otherwise,

that unambiguously could be mapped to the claimed means for assigning.

3. In regard to the art rejection, applicant argues that the amendment overcomes

Hamma's teaching because claim 10, for example, now recites two identifiers.

Furthermore, applicant argues that the tunnel identifier of the tunnel is identified

based on a routing for the packet, and that the routing is determined based, at least

in part, on the SGI.

Applicant's arguments are not found persuasive. The amended claim language

merely introduces "a tunnel identifier" which requires any identifier identifying the

tunnel, not even precluding the tunnel identifier to be a security group identifier (SGI)

as long as it is identified "based on the routing of the packet". (Note that the

claimed limitation does not even requires the identifier to be unique).

However, the phrase "based on" is an extremely broad term, reasonably allowing

various interpretations. For example, clearly a packet will be routed via different

route depending on the destination of the packet. Thus, one can be routed to

VLAN=152 via PE 212 and another to VLAN 1501 via PE 213, for example. Based on the routing different entities receive and identify the particular packet, including the tunnel (VPN) identifier of the packet. However, note that even if there was only one destination such as VLAN 1501 from VLAN=101, the process of routing of the router 212 requires identification of the tunnel (VPN) identifier or, in other words, based on the routing the router identifies a tunnel (VPN) identifier of the packet. Similarly, a skilled artisan would readily recognize that the identifier of the particular PE (i.e. PE 213) identifies the tunnel, through which a packet is routed to VLAN=1501, for example, and a skilled artisan would readily recognize that in order to route a packet a router (i.e. PE 212) must identify the next hop (i.e. PE 213, or in this interpretation, a tunnel identifier) for the packet. Consequently, in the broadest reasonable interpretation, Hamma's disclosure meets the newly introduced limitation.

4. Claims 1, 4, 6-11, 14-20, 22, 24-31, 34-41 and 43-49 have been examined. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Claim Rejections - 35 USC § 112

5. Claims 40-41 and 43-49 remain rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Although the claims are drafted using "means plus function" limitations, the examiner

did not find correlation of the specific "means" to the disclosed structure, acts, or materials to carry out the recited functions in the specification. It is noted that even though claims 20, 22, 24-26, 30-31 and 34-36 as well as the specification (see the corresponding USPUB 2005/0129019, paragraph 68-69, for example) clearly suggest the claimed functionality being realized in software, no computer code (either specific or a pseudo-code) is offered in the specification that would support the claimed "means". Thus, the examiner is unable to interpret the exact scope of claim limitations under 35 U.S.C. 112, sixth paragraph.

Appropriate correction is required.

Claim Objections

6. Claims 10-11 remain objected to because "if said forwarding said packet" in claim 10, should read "if said forwarding _of_ said packet", and "said classifying said packet" in claim 11 misses the term "of".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. Claims 1, 4, 6-11, 14-19, 20, 22, 24-31, 34-41, 44-49 remain rejected under 35 U.S.C. 102(e) as being anticipated by Hamma (USPUB 2004/0202171).

As per claim 10, Hamma teaches assigning a security group identifier (SGI) to a packet, wherein said SGI is assigned based, at least in part, on a security group of a sender of said packet a said SGI identifies said security group (as illustrated by

VLAN/VID shown in Fig. 3 and 4 and associated text, for example), said security

group is configured to represent a plurality of senders and said plurality of senders

comprises said sender (as illustrated by VLANs, identified by VID, disclosed in Fig.

21 and associated text); classifying said packet based, at least in part, on said SGI

and determining a routing of said packet, wherein said determining said routing is

based, at least in part, on said SGI, and said determining said routing comprises

identifying a tunnel (The user router CPE A 214 transmits a VLAN packet PKT1 that

has been tagged with VID=101. When the packet PKT1 enters the edge router PE A

211, the latter generates an MPLS packet PKT2 by removing the tag and adding, in

place of the tag, a VPN label (=26: the VPN identifier of Enterprise A) and a

forwarding label (=push label), and sends the packet PKT2 to the MPLS network

200. The MPLS packet PKT2 subsequently arrives at the target receive-side edge

router PE C 213 along the preset route through the MPLS network while its

forwarding label is replaced. The receive-side edge router PE C 213 creates a

VLAN packet PKT3 by removing the labels and adding a VLAN identifier (VID=1501)

to which the destination user router CPE C belongs and then sends this packet to

the VLAN specified by VID=1501. As a result, the VLAN packet PKT3 arrives at the

user router 231, see Hamma, para 93 for example); determining whether forwarding

said packet via said tunnel is permitted, wherein said determining whether said

forwarding is permitted is based, at least on said SGI and forwarding said packet via

said tunnel, if said forwarding said packet having said packet via said tunnel is

permitted (the edge router extracts the value of the VLAN ID (=VID)) contained in

the tag (step 302) and checks to determine whether the VID value equal to or

greater than 4096 (step 303). If the VID value is equal to or grater than 4095 ("NO"

at step 303), this means that the range of 0 to 4095 of VID values has been

exceeded an the edge router therefore discard this packet. However, if the VID

values lies within the range 0 to 4095 ("Yes" ate step 303), the edge router refers to

the VLAN ID and VPN label conversion table 124 (FIG. 9) (step 304) and checks to

see whether a VPN label value has been discovered (step 305). If the decision if

"NO", then the edge router removes executes ordinary MPLS processing. If the

decision is "YES", on the other hand, the edge router removes the tag and imposes

a Layer-2 label value (VPN label) (step 306), see para 95. Also, note the discussion

in regard to received packets with VPN labels, i.e. para 99).

As per the newly introduced limitation "identifying a tunnel identifier of the tunnel

based on the routing of the packet", the examiner notes that the phrase "based on"

is an extremely broad term, reasonably allowing various interpretations. (In addition,

the limitation does not require to be different from a security group identifier or even

a unique identifier.) For example, clearly a packet will be routed via different route

depending on the destination of the packet. Thus, one can be routed to VLAN=152

via PE 212 and another to VLAN 1501 via PE 213, for example. Based on the

routing different entities receive and identify the particular packet, including the

tunnel (VPN) identifier of the packet. However, note that even if there was only one

destination such as VLAN 1501 from VLAN=101, the process of routing of the router

212 requires identification of the tunnel (VPN) identifier or, in other words, based on

the routing the router identifies a tunnel (VPN) identifier of the packet. Similarly, a

skilled artisan would readily recognize that the identifier of the particular PE (i.e. PE

213) identifies the tunnel, through which a packet is routed to VLAN=1501, for

example, and a skilled artisan would readily recognize that in order to route a packet

a router (i.e. PE 212) must identify the next hop (i.e. PE 213, or in this interpretation,

a tunnel identifier) for the packet. Consequently, in the broadest reasonable

interpretation, Hamma's disclosure meets the newly introduced limitation (refer for

more details to paragraph 3, above).

8. As per claim 11, the classification phase at a transmit-side edge router precedes the

    forwarding of the packet by the router. Thus, the previously discussed forwarding is

    clearly based, at least in part, on a result of said classifying of said packet.

9. As per claims 14-15, VLAN ID and VPN label conversion table 124 (as shown in Fig.

    9 and detailed in Fig. 4) meets the limitation of ACL, a copied VID (VLAN ID)

    mapped against the ACL entries in order to find the corresponding to find VPN label

    VID meets the limitation of an index.

10. As per claim 16, a transmit-side edge router meets the limitation of an ingress router

    and the recipient-side router, an egress router.

11. As per claim 17, Hamma teaches whether said packet can be forwarded by the

    egress router based on the SGI (The receive-side edge router checks to see

    whether the MPLS packet has arrived (step 311). If the MPLS packet has arrived,

    the edge router removes the forwarding label attached as Layer 1 (step 312). Next,

    the edge router extracts the Layer-2 VPN label (step 313), refers to the table 124

indicating the correspondence between the VLAN ID (=VID) and VPN label (step

314) and checks to see whether the VID has been found (step 315). If the VID has

not been found, the edge router discards the packet. If the VID has been found,

however, the edge router removes the Layer-2 label and adds a tag that contains the

VID to create a VLAN packet (step 316). Next, the edge router refers to the VPN

label table 124 to find the output interface and sends the VLAN packet to this

interface (step 317). The destination user router CPE C receives the VLAN packet

and executes predetermined processing (step 318), see para 99, for example).

12. As per claim 18, as noted in the above paragraph, the egress router (receive-side

edge router) at least retrieves the SGI (VPN label), an identifier of the tunnel (VID)

and a destination of the packet (destination address (see MAC address in Fig. 3).

13. As per claim 19, VLAN ID and VPN label conversion table 124 (as shown in Fig. 9

and detailed in Fig. 4) meets the limitation of ACL a copied VPN label mapped

against the ACL entries in order to find the corresponding VPN meets the limitation

of an index.

14. It is noted that task in computing tasks are accomplished by executing computer

code/set of instructions stored on a computer readable storage medium using a

processor and content-addressable memory. Furthermore, the components/set of

components offering the claimed functionalities meet the limitations of the

corresponding/claimed means/unit labels cited in the claim language. Additionally,

note that the forward information is kept in a header (see Fig. 3, 17A and B and 20,

for example).   As a result, claims 1, 4, 6-9, 20, 22, 24-31, 34-41, 44-49 are

substantially similar to claims 1; thus, claims 10-11, 14-19 and are similarly rejected.

Conclusion

Examiner has cited particular paragraphs and/or sections and/or page numbers

in the reference(s) as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are

applied to the specific limitations within the individual claim, other passages and figures

may apply as well. It is respectfully requested from the applicant in preparing

responses, to fully consider the references in entirety, as potentially teaching, all or part

of the claimed invention, as well as the context of the passage, as taught by the prior art

or disclosed by the Examiner

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Peter Poltorak/

Examiner, Art Unit 2434